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DECEMBER 8.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-eight members present.

Continuous Growth in Fungoidal Excrescences.—Mr. THOMAS MEEHAN exhibited some excrescences, growing on branches of *Quercus tinctoria*, the black oak, gathered from above the remarkable quarry of broken rocks at Edge Hill, which had been brought to the notice of the Academy last year by Mr. Rand, and remarked that all familiar with our forest features must have often seen similar excrescences, which were the work of insects, and partook of the nature of galls. An examination of these exhibited showed them to be of fungoid origin, and similar in their nature to the familiar knots on the plum and cherry, which through the researches of the late Mr. Walsh and Prof. Peck, of Albany, were now known to be of fungoid, and not of insect origin. These, however, and he believed most of the excrescences of this character, completed their growth within one year, becoming dead and dry the subsequent season. Sometimes new matter would form near the point of issue of the old one; but this was wholly from the branches, and added nothing to the growth of the former year. In the case of these Edge Hill specimens, the growth of the excrescence was as regularly continuous as the other woody portions of the tree, and seemed to endure while the tree lasted. The first season the excrescences were small, the second as large as marbles, and the third often equalled a walnut in size, while some on the trunks and main branches were as large as an average sized oyster-shell. The minute fungoid organisms that formed these excrescences were usually short-lived; and their longevity in these instances he considered remarkable.

On a New Mastodon and Rodent.—Prof. COPE made a communication on the Elephants obtained by himself in New Mexico and Colorado during the past season while attached to the Wheeler Survey. He had obtained *Elephas primigenius* var. *Columbi* from post-pliocene beds at the base of the Zandia mountains, and the *Mastodon ohioticus* from corresponding beds near Taos. The former species he had also obtained from the valley of the South Platte in northeastern Colorado. The pliocene sands of Santa Fé contained numerous remains of a *Mastodon* which Leidy had referred to his *M. obscurus*,[1] but which is obviously a different species, and being without name, Prof. Cope proposed to call it *M. produc-*

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[1] Report of Geolog. Surv. Terrs., Vol. I. 4to., p. 235.

tus. He gave a list of the North American Mastodons, referring them to the two groups characterized, the one by the continuous cross-crests divided by a fissure only, the other by the transverse series of two or more deeply separated tubercles. To the first he referred *M. ohioticus*, Cuv., and *M. proavus*, Cope; to the second *M. chapmanii*, Hays (from which *M. obscurus* could not be at present distinguished), *M. shepardii*, Leidy; *M. andium*, D'Orb. (the last two referred by Leidy to *M. obscurus*); *M. mirificus*, Leidy (closely allied to *M. humboldtii*), and *M. productus*, Cope.

No question as to the distinctness of the *M. productus* could arise, although our knowledge of the *M. chapmanii* to which it has been referred is very slight. As described by Drs. Hays and Leidy, the lateral tubercles of the molars in that species are closely appressed or not separated, being sometimes continuous across the crown of the tooth. This description applies to one of the specimens (a cast) selected by Dr. Leidy as his type, and to a second specimen referred by him to the *M. andium.* The second type specimen of Leidy, a fragment of a posterior molar, is undistinguishable from corresponding parts of *M. andium.* The *M. shepardii* as described by Leidy is evidently quite distinct from both the preceding and from the *M. productus*, in the absence of accessory tubercles of the lateral principal cusps of the molars.

The *M. productus* was characterized as follows:—

The posterior inferior molar supports five transverse series of tubercles, of which the posterior is less developed than the others. Each series is composed of two cusps of a conic form which are separated deeply from each other, and are not united at the base so as to become confluent on attrition. The cones of the outer side support one or two accessory tubercles on a line with their inner or median face, so that the transverse section of a worn tooth with the two accessory cusps is that of a trefoil with the lobes inwards. The penultimate molar in the same jaw supports three transverse series. The symphysis is elongate depressed and subspatulate; its proximal half is excavated, the distal half flattened. Two tusks project from the extremity; they are short, obtuse, and flattened on the inner side. Total length of a specimen which is entire from the end of the symphyseal tusks to just behind the last molar, 29 inches; length to first molar (penultimate), 19 inches; length of first molar, 4.25 inches; of last molar, 6.5 inches; width of same, 3 inches. Width across the rami at end of last molar, 18 inches; do. between anterior borders of first molar, 2.5; do. of symphyseal spout, least, 4.5 inches; at base tusks, 4.75 inches. Length of free portion of symphyseal tusks, 4 inches; diameter of do. 1.75 inches.

Prof. Cope also described a species of Rodent from the same beds under the name of *Steneofiber pansus.*

The molar teeth exhibit a regular gradation in width from the large anterior to the small posterior. In the mandibular series the second and third are broader than long, the first and fourth longer than broad, and with an angle on the outer anterior side of the crown. There is an inflection or groove of the enamel on both inner and outer sides of the crown, and one enamel area before and one behind them on all excepting the last molar, where there are two in front. First nearly twice as large as last molar. Lower incisor with smooth enamel, and angulate on the extero-anterior border. Ramus stout. Length of molar series m. .016 ; length of first molar m. .005 ; width of first molar m. .004 ; width of last molar m. .0035; transverse diameter of incisor m. .004 ; depth of ramus at m. 2.012.

The regular diminution of the size of the teeth from front to rear is characteristic of this species; according to Dr. Leidy their reduction in size in the *S. nebrascensis* is more abrupt. The latter species is said to be of Miocene age.

DECEMBER 15.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-two members present.

Remarks on Fossils presented.—Prof. LEIDY remarked that the collection of fossils presented this evening by Lieut. E. Crawford, U. S. A., contained some interesting specimens. Among them are a number of tertiary vertebrate remains, which were found by Lieut. Crawford about ten miles from Red Cloud Agency, Nebraska. They mainly consist of fragments of bones and teeth, similar to those which he had previously ascribed to Titanotherium. The specimens indicate two individuals differing in size.

A lower jaw fragment, contains a last molar, like those represented in Plate XVI. of the Ancient Fauna of Nebraska, except that the external basal ridge is interrupted at the extreme outer part of the lobes of the crown. The fore and aft diameter of the latter has been about 3 inches and 7 lines. The thickness of the jaw just below the fore part of the tooth is little more than two inches.

A number of lower molars exhibiting evidences of having belonged together indicate a larger animal than the former. The last molar has lost its hinder lobe, but without this is as large fore and aft as in the specimen first indicated. When perfect, it was about 4½ inches antero-posteriorly. In this likewise the basal ridge is interrupted at the extreme outer part of the lobes of the crown. The crown of the second molar, well-worn, is 35 lines fore and aft.

The three premolars have the same constitution as the molars, and rapidly diminish in size, passing forward in the series. The first premolar is 14 lines fore and aft; the second is 19 lines; and the third is 22 lines.